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Dr. Robert K. Clifton
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Dear Bob,

Sorry for the long delay but I've been away. I've talked to Abner about your letter and I agree with him. However there are a couple of points I'd like to add.

First, the paper for the Mason Symposium was written for and presented to an essentially non-technical audience. There was no attempt to be overly careful, let alone rigorous, nor to include any conditions or details, etc. When I used the word "continuously" there, I wasn't even thinking of the word in its mathematical sense. I was thinking of someone sitting down and twiddling dials and seeing nothing happen, since the functions are constants, and this is totally contrary to its quantum behavior.

To have someone jump on this one word and pronounce that this commits us to a specific, definitive, technical claim strikes me as somewhat bizarre. While I concede that the work should have been published long ago, I gave plenty of talks on it and wrote unpublished notes. We tend to publish anywhere up to about 4 years after we finish something. (You know what a fast-moving field this is!) But anyway, since one has here a function which equals only ± 1, if continuity entered there'd be nothing to prove. It's not a claim anyone would be likely to make.

The second point I don't see is why you keep emphasizing that you have a contradiction using only 5 angles. It seems to me to miss the point entirely. It may be a big improvement over the former work of Kochen, but it is nothing compared to what you could have done. With only 4-sets of arbitrary angles you can prove that all the functions are constants wherever they are defined, an infinitely more powerful result! Your proof only shows a contradiction at one point. It doesn't rule out that there may be contradictions only over a set of measure zero.

For less work, you could have a much prettier result. That is what we did and you are free to use it. (Using only a specific set of angles seems to me to be akin to pointing out that a car won't run because a hose is frayed, letting air in, while not noticing that the engine is missing.)

Your work is fine and should certainly be published, but I feel you have killed a gnat with a sledgehammer, when a flick would do. I think you have developed a powerful apparatus, and that it would be wonderful to see it applied to a problem where one would make some serious conceptual errors without it. I hope that you consider this as "practice" for some future potent result using these techniques. That would be a real coup.

Sincerely,

Dan Greenberger

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